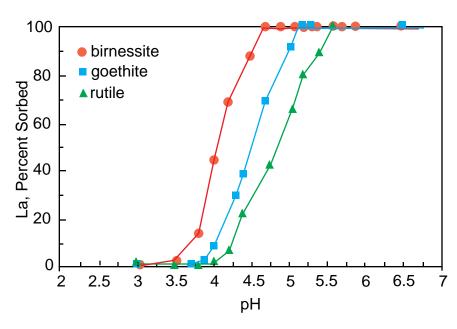


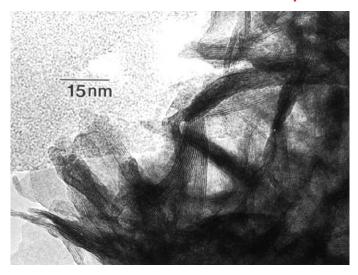
## **NCEM Studies Characterize Lanthanum-Soil Complexes**

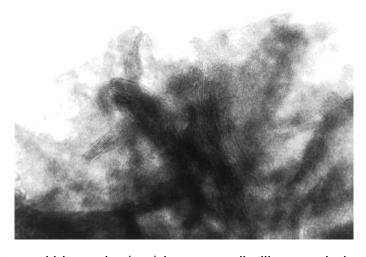


Results are Relevant to Mobility of Uncontained Hazardous Isotopes



Sorption curves of La on three model minerals: Birnessite (d-MnO<sub>2</sub>), goethite (a-FeOOH), and rutile (TiO<sub>2</sub>)





Untreated birnessite (top) has a needle-like morphology. After La sorption at pH 5 the needles are coated with multilayers of lanthanum hydroxide, indicative of a dominant surface precipitation mechanism.